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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference									
RX03P04USPCT	FOR FURTHER ACTION	See Form PCT/IPEA/416							
International application No.	International filing date (day/month/year)	Priority date (day/month/year)							
PCT/JP2004/002738	04.03.2004	31.03.2003							
International Patent Classification (IPC) or nat	ional classification and IPC								
Applicant JAPAN SCIENCE AND TE	CHNOLOGY AGENCY								
 This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 									
2. This REPORT consists of a total of 5 sheets, including this cover sheet.									
3. This report is also accompanied by A	ANNEXES, comprising:								
a. (sent to the applicant and	d to the International Bureau) a total of 6	sheets, as follows:							
sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).									
sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.									
b. (sent to the International	l Bureau only) a total of (indicate type and nu	mber of electronic carrier(s))							
related thereto, in compute Section 802 of the Admini-		, containing a sequence listing and/or tables pplemental Box Relating to Sequence Listing (see							
4. This report contains indications related	ting to the following items:								
Box No. I Basis of th									
Box No. II Priority	·								
Box No. III Non-estab	lishment of opinion with regard to novelty, in	ventive step and industrial applicability							
Box No. IV Lack of ur	nity of invention								
Box No. VI Certain do									
Box No. VII Certain de	Box No. VII Certain defects in the international application								
Box No. VIII Certain observations on the international application									
Date of submission of the demand	Date of completion	of this report							
		-							
Name and mailing address of the IPEA/JP	Authorized officer								
Facsimile No.	Telephone No.								

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International application No.
PCT/JP2004/002738

Box	No. I	Basis of the report		
1.		regard to the language, this report is based on the internation ated under this item.	al application in the language in whic	h it was filed, unless otherwise
		This report is based on translations from the original language which is the language of a translation furnished for the purport		, , , , , , , , , , , , , , , , , , ,
		international search (Rule 12.3 and 23.1(b))		
		publication of the international application (Rule 12.4)	•	
		international preliminary examination (Rule 55.2 and/	•	
2.	recei	regard to the elements of the international application, this a viring Office in response to an invitation under Article 14 are report): the international application as originally filed/furnished		
	\boxtimes	the description:		
		pages 1-2,6-19		as originally filed/furnished
		pages* 3-5	received by this Authority on11	.07.2005
		pages*	received by this Authority on	
	\boxtimes	the claims:		
		nos. 4		as originally filed/furnished
		nos.*		th any statement) under Article 19
		nos.* 3,8-12	received by this Authority on 11	07.2005
		nos.*		
	\boxtimes	the drawings:		
		allows 1 A		as originally filed/furnished
		sheets*		as originally incurations and
		sheets*		
		a sequence listing and/or any related table(s) - see Supplem	ental Box Relating to Sequence Listin	ng.
3.		The amendments have resulted in the cancellation of:		
		the description, pages		
		the claims, nos. 1,2,5-7		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
4.		This report has been established as if (some of) the amend they have been considered to go beyond the disclosure as fi	led, as indicated in the Supplemental l	Box (Rule 70.2(c)).
		the description, pages		
		the claims, nos.		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
Ŀ	If it	em 4 applies, some or all of those sheets may be marked "sup	perseded."	

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citations and explanations supporting such statement Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;						
1.	Statement					
	Novelty (N)	Claims	3,	4,	8-12	YES
		Claims				NO
	Inventive step (IS)	Claims				YES
		Claims	3,	4,	8-12	NO
	Industrial applicability (IA)	Claims	3,	4,	8-12	YES
		Claims				NO
1						

2. Citations and explanations (Rule 70.7)

- Document 1: JP 1-117303 A (Taiyo Yuden Co., Ltd.), 10 May 1989, entire text
- Document 2: JP 2001-135511 A (Sumitomo Special Metals Co., Ltd.), 18 May 2001, paragraphs [0022] to [0026]; [0045] to [0047]
- Document 3: JP 61-170565 A (Fujitsu Limited), 1 August 1986, entire text; fig. 3
- Document 4: JP 2002-260942 A (Sumitomo Special Metals Co., Ltd.), 13 September 2002, entire text; all drawings

Claims 3, 4 and 8 to 12

Document 1 sets forth a permanent magnet, wherein Tb and Dy are diffused in the proximity of the surface of an R-Fe-B sintered magnet to provide a layer with a higher inherent coercive force than inside the magnet; and with a sintered body as an anode, sputtering is carried out with Dy metal as a cathode target to form a Dy thin-film layer, then the sintered body having a thin-film layer is subjected to heat treatment. The value for BHmax at the front is also disclosed.

Document 2 sets forth a minute Nd-Fe-B sintered magnet which has been surface coated, wherein when the

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

shape of the Nd-Fe-B sintered magnet has a surface area of Smm² and a volume of Vmm³, the value for S/V preferably falls within the range of 2mm-1 to 20mm-1; and a shape such as a ring with a hole inside is formed by machining a large blank.

Newly cited document 4 sets forth a unit which rotatably supports suspending members (8) in order to suspend ring-shaped bonded magnets (30) as 8 holding members on a rotatably supporting member (7) around a rotating shaft (6) in a horizontal direction; and a feature wherein an inorganic coating is vapor-deposited on the surface of an Nb-Fe-B bonded magnet.

In addition, as described in document 3, a sputtering device using an opposing target is a known feature.

In addition, it would be easy for a person skilled in the art to conceive of machining a surface-treated R-Fe-B sintered magnet into a ring-shape as set forth in document 2 as an alternative to the shape of the R-Fe-B sintered body set forth in document 1, to constitute a minute shape having a predetermined S/V value; and to apply the configuration of the vapor deposition device set forth in document 4 and known features to the device to carry out sputtering set forth in document 1.

In addition, in the light of the fact that in the invention set forth in document 1, a large quantity of Dy is segregated the inner part of the magnet to 50μ inside the magnet surface, and that the invention has the same BHmax value as the invention of this application, it is understood that R metal has permeated to the same depth

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

as the invention of this application.

In addition, determining whether to carry out diffusion metallizing while film-forming at a high temperature, or to carry out diffusion metallizing after carrying out heat treatment after film-forming, would merely constitute a design feature which a person skilled in the art could accomplish as necessary.